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Rural Lines

FEBRUARY
1957

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P 88

cop 4

Telephone installation man is always welcome visitor
in rural homes. See picture story beginning page 5.





A Message from the

ADMINISTRATOR

ALLYN W. Gill is the young and able manager of the Coleman County Telephone Cooperative at Santa Anna, Texas. Like many others, he is working hard to provide modern telephone service for rural sections. The Coleman County system faces more than the usual difficulties of new rural telephone systems: Coleman county is in the drought area which President Eisenhower visited last month.

After reading in *RURAL LINES* (August 1956) about the Department of Agriculture Rural Development Program, and after receiving my letter on the same subject to all REA Borrowers, Mr. Gill talked to several civic and farm leaders in his area. With their backing he is trying to have his county selected for a pilot program. "This program (the Rural Development Program) is certainly a step in the right direction," he writes.

We do not know whether Mr. Gill's county will be selected for a pilot county. That is in other hands. The important fact is that here is another REA borrower providing leadership for a community.

Mr. Gill and his associates realize, as do my neighbors in Logan County, Colorado, that the drought areas need to develop an economy that is not based 100 percent on the weather. Mr. Gill knows that good electric and telephone service are essential to the development of a diversified agricultural economy.

We commend Mr. Gill and his associates for providing active leadership in a community undertaking. Rural utilities everywhere should be alert to possibilities for joining with other local groups in efforts to add strength and stability to their local economy.

David G. Hamill

Administrator.

Telephone Revenues Rise, All Employees Profit When

Everybody Sells Service

“EVERYBODY sells” is the slogan the Management Section of REA’s Telephone Operations and Loans Division recommends for rural telephone systems.

That means that every employee, plant and office alike, should be kept alerted to the need to sell new subscribers and to upgrade the service of present subscribers.

The management section has case histories to prove that employees can do an effective job of selling service and increasing revenue—provided system management puts intelligent effort behind a sales and merchandising program.

For instance, two Montana systems—Three Rivers Telephone Co-operative of Fairfield and North-eastern Montana Telephone Co-operative of Scobey, last summer started employee sales programs that got immediate results and are still producing new revenue for the co-ops.

Three Rivers Sales Plan

The plans are similar, with minor adaptations to meet local situations, so let’s see how the Three Rivers Co-op planned and is carrying out its sales program. REA management section personnel gave advice and help on the overall planning, but the actual job had to be done by the co-op’s manager and board of directors. It was worth the work, because in the first two

months extra sales by employees totaled \$1,546 in additional revenue.

First, Manager Mark Curtiss got the okay from his board to set up the plan and, incidentally, the directors agreed to set the pattern for the community by taking extensions, colored sets and other facilities that add up to adequate telephone service.

Employee Meeting

Mr. Curtiss called a special meeting of the employees where they were impressed with the idea that their selling would mean a stronger system, which in turn would lead to job security, promotion opportunities, better pay for all.

Part of the meeting was devoted to two films, “*Family Affair*” which shows the advantages in a home with adequate telephone service, and “*Sales Are Where You Find ‘Em*”, a story on employee selling which shows how sales can be made in practically any situation. These films, by the way, are available on a loan basis to rural telephone systems from any associated Bell company.

Plant men were reminded that they are welcomed to subscribers’ homes on a friendly basis and encounter practically no sales resistance. Salesmen who make their living through door-to-door calls, it was mentioned, would be the happiest breed of men if they could

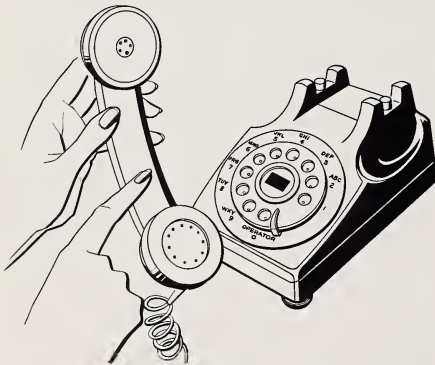
catch prospective customers in the same receptive mood. The telephone men who make installations and service calls were convinced of their opportunity to sell additional service, such as extensions, colored sets and other accessories.

Employees were urged to do their selling in terms of "improved service" instead of in terms of items for sale.

The Three Rivers board authorized modest cash prizes to be awarded at the end of the first 30 days and the first six months. This was set up on a drawing basis, with employees entitled to varying numbers of shares according to the value of the service they sold. However, the prize arrangement is not an important part of the employee sales program; emphasis is placed on the fact that employees who help build system revenue are actually helping themselves.

Each employee was given a pocket-size folder that listed services available, rates, selling tips and other pertinent details.

After getting the plan set up, the co-op gave support to the campaign



by arranging telephone displays in local store windows, furnishing newspaper publicity, using posters on its own trucks and automobiles.

When the Fairfield exchange was

cut over to dial, the co-op arranged a public gathering in the school auditorium at which the film "*Family Affair*" was shown, color sets displayed, and brief talks given on the convenience and economy of telephone service.

Continuing Campaign

One of the most important factors in any sales program is continuity. Management must keep reminding the staff of the importance of selling, else the campaign will bog down. Brief employee meetings must be held every week, with the manager reviewing results and repeating the sales talk to re-stimulate interest. It's important to keep accurate records of employee sales and to post them each week. Employees with good sales records like recognition and others will try to improve their standing.

Three Rivers has about 850 stations on its system, so that extra \$1,546 in annual revenue sold during the first two months is no small item. The campaign is still going on, receipts are still growing, and expenses connected with the program are so small they are negligible.

Among the sales turned in by the co-op's employees during those first two months were 14 new subscribers, 13 extension telephones, 30 colored sets and numerous smaller items and services. And, remember, these were *extra* sales; voluntary requests for service are not included in the employees sales record.

You can't go wrong if you keep everybody selling. Take the word of the men in the management section of REA's Telephone Operations and Loans Division for that.

HOW THEY KEEP BELLS RINGING



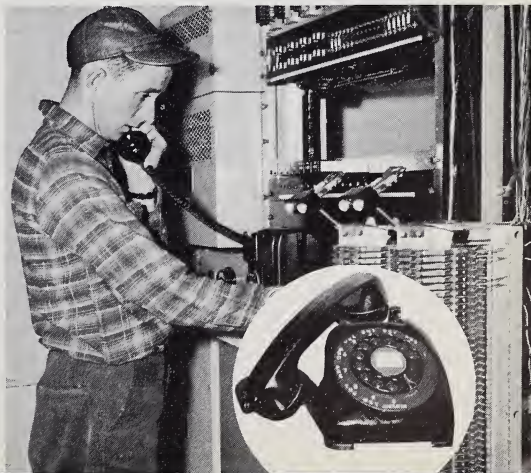
Combination man's day starts early with briefing session with owner-manager Richard Eyer (left). They go over service orders and trouble reports on the day's agenda.



Bobby starts his rounds in the company's well kept, well equipped truck. He heads first for dial central office near Montpelier to check calling subscriber's report that a friend's telephone gives constant busy signal.

INSTALLERS and maintenance men working for rural telephone systems lead a full and busy life. **RURAL LINES** visited the Merchants and Farmers Telephone Company, an REA borrower with headquarters in Montpelier, Virginia, to record a typical day in the life of combination man Robert Moody. His story could be duplicated among REA borrowers in rural areas throughout the country, where employees like Woody "keep the bells ringing."

That's an easy job to take care of. Using wire chief's test set he finds that called party's receiver is off hook. Special equipment enables him to signal subscriber. Inset shows the trouble—probably done by one of the kids.





Report of noisy line starts him looking for trouble. After testing, finds and removes tree branch blown across lines by previous night's wind.



Installing telephone for new subscriber always draws interested spectators and willing helpers. Won't be long before they'll be good telephone customers, too.

He "just happens" to have an extra telephone with him. Subscriber decides a kitchen extension will be a real step-saver. Bobby tells us that since cutover to modern dial last summer trouble calls are few and far between, freeing him for installations, service calls, routine maintenance.



After installation, he instructs subscriber in proper use of the telephone to get full benefit from her new, modern dial service.





Using dial hand test set he checks back at company office, gets latest service calls and trouble reports from Mrs. Eyler.

Replacing broken insulator. Chain hoist holds tension on line until work is completed. Bobby keeps eye peeled for such things as he travels along the line, doesn't wait for trouble calls to develop.



While in neighborhood, stops at subscriber's house to adjust bell volume on telephone. Housewife takes real interest in the works in the "magic" instrument.





Work in CDO takes a good part of combination man's time. Here he solders jumper wires to provide service for new subscriber. Merchants and Farmers has three dial central offices.



One of the day's assignments is to collect from outdoor pay station in the Beaverdam community.

This dairy farmer finds telephone in milk room indispensable in his business. He shows where he wants outside gong installed, so he can hear calls anywhere around the barns.



At day's end he gets warm and hearty welcome from son Bruce and the family dog. Regular work day ends, but he's always on call to take care of emergencies. His job is to keep the bells ringing.



Trees and Brush Won't Wait;

'Do It Now' Is the Rule for

Right-of-Way Maintenance

DON'T postpone right-of-way maintenance work until it creeps up on you as a costly, hard-to-handle job.

That's the timely advice for rural telephone systems from REA's telephone operations and maintenance engineers.

They point out a number of reasons why the winter months are a good time to catch up on needed trimming. Absence of foliage gives a better view of branches so that a more effective and lasting job of trimming can be done. Property owners who might object to trimming shade trees in full foliage usually grant permission readily at this time of the year.

Winter months in many parts of the country find construction activity retarded, resulting in more availability of personnel and equipment. Trimming work and brush disposal costs are lower in winter when many tree and brush species are bare of foliage.

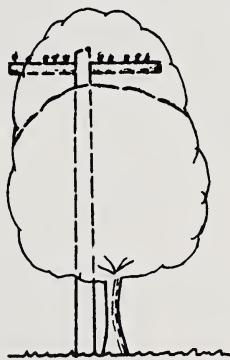
The engineers remind borrowers that maintenance costs may average as much as 20 percent of the annual gross revenue of a telephone system. Consequently any means that can be used to reduce the expense is well worth while. An effective way to cut the costs is to combine trimming with regular maintenance work as much as possible.

In any event, get the work done

on a regular schedule instead of letting it build into a major undertaking. The engineers point out that growth of trees and brush is a constant process, and that maintenance costs are accumulating even though the actual work may be deferred.

Good reference on the subject is Section 1244 of REA's Telephone Operations Manual, *Right-of-Way Trimming*. The section is divided into the following headings:

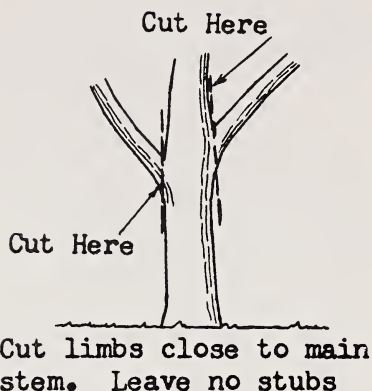
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|----------------------|--------------------|
| 1. General | 5. Directional |
| 2. Seasonal Trimming | Trimming |
| 3. Working Safely | 6. Clearance |
| 4. Trimming Methods | 7. Brush Removal |
| | 8. Debris Disposal |



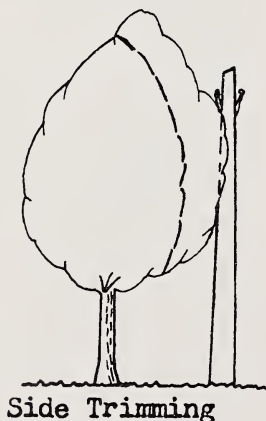
Top Trimming

Besides covering all these phases of right-of-way maintenance, Section 1244 includes listings of characteristics of various trees and shrubs and illustrations of proper trimming and cutting procedures.

The engineers emphasize the importance of training crews in the correct methods of trimming and cutting. First, improper work can

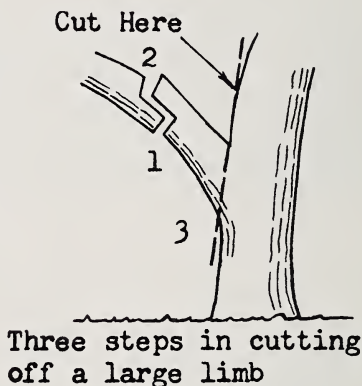


mean that regrowth will soon crowd your lines again and necessitate a repeat job; secondly, your right-of-way maintenance can be a means of building good public relations if fruit and shade trees are trimmed symmetrically. On the other hand, careless trimming that spoils the shape of trees or improper cutting that results in split or damaged limbs will mean that you have created an unpleasant relationship with a present or future subscriber.



Why so much emphasis on right-of-way maintenance? As mentioned above, even at best the maintenance job takes a big slice out of revenues, and when the work is deferred too long costs may get entirely out of hand. Aside from the actual cost involved when right-of-way work is put off, delay may result in service complaints, interruptions to service and damage to plant. All these can mean expensive trouble shooting and repair jobs.

One of the encouraging aspects of right-of-way maintenance is the progress being made in the development of improved chemicals for brush control, as well as improved methods of application. Many utilities have reduced right-of-way maintenance costs by as much as



50 percent through the proper use of chemicals.

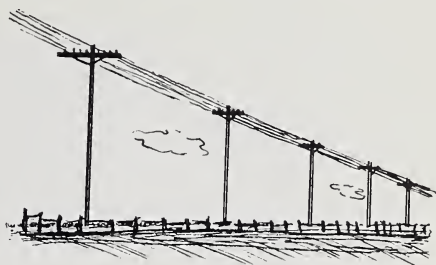
Whatever the situation on your system, don't make the mistake of thinking that right-of-way maintenance can be put off indefinitely. Trees and brush are going to continue to grow and what could be a routine maintenance job today will, if deferred too long, be an undertaking of major proportions.

Microwave Radio Use Gains Among REA Borrowers

Advantages offered to rural telephone systems by microwave radio over wire under favorable conditions—as when eight or more circuits are involved over distances greater than 15 or 20 miles—are being put to practical use by an increased number of REA telephone borrowers.

Among rural telephone systems financed by REA which have installed microwave radio, or are in the process of installing it, are the following:

Gulf Telephone Company, Foley, Alabama; The Delta County Cooperative Telephone Company, Paoonia, Colorado; North Florida Tele-



phone Company, Live Oak, Florida; LaFourche Telephone Company, LaRose, Louisiana; Cameron Telephone Company, Sulphur, Louisiana; South Central Utah Telephone Association, Inc., Tropic, Utah, and Amberg Telephone and Telegraph Company, Wausaukee, Wisconsin.

Directory Lists Telephone Tips For Subscribers

Good subscriber relations get a boost every time the telephone directory is used for calls on the system of the Dakota Central Rural Cooperative Telephone Association, Carrington, North Dakota.

Heading each section of subscriber listings is a short tip for better service, starting with the same letter of the alphabet as the names that follow it. Here are some of the telephone tips:

Be Sure of Your Number Before You Dial
Every New Telephone Gives You Added Service
Give Time for Called Party to Answer
Keep Your Directory Handy
Operators Are Willing to Help You
Please Relinquish Line for Emergencies
Telephone Manners Make Friends

H. R. Wolle, manager of Dakota Central, says that about half of the listed subscribers in the directory have telephones for the first time. He thinks the slogan-type suggestions scattered through the pages will be continual reminders and more frequently seen than the detailed explanation of how to use the telephone that fills several pages in the front of the directory.



WILL SERVE HOYT A

... Dials

Endorses Dials

BRADY'S LEADING WEEKLY NEWSPAPER

Endorses
Continued from Page 1

ty Phone System Holds
House?; Gregory Is Speaker

First Telephone
Exchange At City
Started in 1916

Crandall 1165 1
Telephone 1165

Hawkins Area Phone Patrons Have Automatic Dial Service

Chariton Valley Has Stockholders Session

COMMUNICATIONS EDITION

Sydney **Democrat**

Public

Dial Phones
And Coop

Optic

WEDNESDAY APRIL 14, 1951

THU

A collage of newspaper clippings. The central, most prominent headline is "Publicity Pays" in a large, bold, serif font, slanted diagonally from the bottom left towards the top right. Behind this headline, various other newspaper fragments are visible. To the upper left, the word "nocracy" is partially visible in a large serif font, with "DITION" above it and "THU" below it. To the right of the main headline, there's a small illustration of a car. Below the main headline, there are several lines of smaller text from different articles, including phrases like "era -", "A new", "is being", "our impr", "es and in", "long wa", "no", "State", and "Public has increas". The overall composition suggests a theme of media influence or public relations.

Option Take
Central Tele

Dial Phones
And Coop

DIANA WEDNESDAY APRIL 14, 1964

ard

Congratulations

On The Progress In Communication

Now, the people of Calhoun County are one of continued progress and a new, modern, right up-to-date is being added to our rural power and our improved roads and progressive ex and industries and progressive long water.

Veteran Telephone Manager Endorses New Dial System

General Office of Tele
Is Outstanding in A

Crandall Has Telephone

"Rural Telephone Day To Be Held
Here July 8th. Commemorating
The Opening of Modern Dial Sys-
tem for South Calhoun County—
Big Event Is Expected.

Manager The System

Proclamation

RURAL TELEPHONE DAY





Have You Tried These REVENUE BUILDERS?

~

New housing developments are fertile fields for your employees to canvass. They have a concentrated area to work in, should be able to do a good job of selling extra services and equipment.

~

KEEP in touch with home-builders in your service area who are planning exhibition homes for showing to the public. You can make arrangements to have matching colored telephones put in when the homes are furnished and decorated. Not only will numerous visitors see how the colored sets blend with home decorations, but nine chances out of ten the buyers of the exhibition homes will want to have the colored telephones installed when they move in.

A campaign to re-grade service to eliminate multi-party lines is a good way to increase revenues and make happier and better satisfied subscribers. One-party or two-party lines mean better service for your subscribers, reduction in party lines complaints. Re-grading service also means getting ready for the universal use of Direct Distance Dialing.

Two-Way Mobile Radio Speeds Up Construction and Maintenance Jobs

More and more rural telephone systems financed by REA are using two-way mobile radio in their vehicles to expedite construction and maintenance of their communications facilities.

To date 13 REA borrowers have installed or are installing two-way mobile radio in plant vehicles. They are:

Gulf Telephone Company, Foley, Alabama; North Florida Telephone Company, Live Oak, Florida; Union Point Telephone Company, Inc., Union Point, Georgia; C. T. and N. Telephone Company, Casey, Illinois; United Telephone Association, Inc., Dodge City, Kansas; La-Fourche Telephone Company, LaRose, Louisiana; Mid-Rivers Telephone Cooperative, Circle, Montana; Reservation Mutual Aid Telephone Corporation, Parshall, North Dakota; Bowman-Slope Rural Telephone Mutual Aid Corporation, Bowman, North Dakota; Farmers Telephone Cooperative, Inc., Kingstree, South Carolina; South Plains Telephone Cooperative, Inc., Lubbock, Texas; Central Virginia Telephone Corporation, Amherst, Virginia, and Piedmont Telephone Company, Manassas, Virginia.

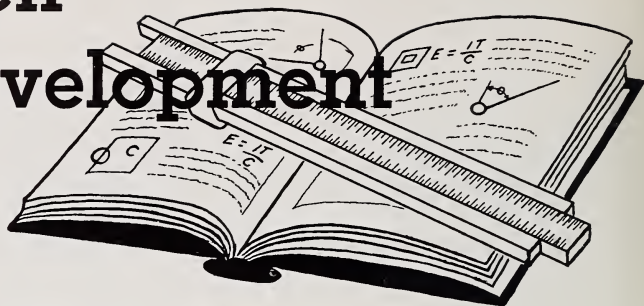
Rural Lines

REA

REA engineers continually look for ways to help borrowers provide better and more economical electric service. See page 16.



Research and Development



REA's Electric Engineering Division constantly tests and studies new equipment and new methods that could be applied by rural electric cooperatives for more efficient and economical operation and maintenance of their systems. Following is a brief summary of the tests currently being conducted or sponsored by REA.

Galloping Conductors. Many rural electric cooperatives have had costly experience with galloping conductors which whip together and cause outages or, in the case of severe galloping, may break the conductors and damage pole structures.

REA is collecting information to find a solution to this trouble. Three rural systems—East River Electric Co-op, Madison, South Dakota; Corn Belt Power Co-op, Humboldt, Iowa, and Northwest Iowa Power Co-op, LaMars—are assisting REA by reporting scientific observations on the nature of the galloping.

In addition, REA is exchanging research information with Purdue University and Washington State College, which are conducting studies under the sponsorship of an aluminum conductor manufacturer, with Commonwealth Edison Co., Chicago, Illinois, and with the Hydro-Electric Power Commission of Ontario, Canada, which is carrying on an independent study.

REA issued a preliminary staff report on the studies in June, 1955, and will make further reports when more information is available.

Aeolian Vibration is another phenomenon that affects rural electric systems by causing fatiguing of conductors and breaks at tie points and connections. Aeolian vibrations are low amplitude oscillations usually invisible to the eye but which can be heard and felt. Their frequency ranges from 10 to several hundred cycles per second in wind speeds up to 20 miles per hour.

REA is experimenting with plastic sleeve vibration dampers for electric distribution lines. They are made of strips of plastic material, moulded so that they can be spiraled onto the conductor. They have the appearance of a rubber hose about $\frac{3}{4}$ -inch in diameter and three to six feet in length.

REA's preliminary qualitative tests during the past year on the lines of Ree Electric Co-op Association, Miller, South Dakota, brought favorable results but pointed to the

need for more detailed quantitative studies.

In cooperation with REA, the National Bureau of Standards is making a detailed study of aeolian vibrations and the effectiveness of the plastic sleeve. The Bureau of Standards tests include set-ups of full length spans to correlate vibrations with wind velocity and measure them accurately; a set-up to

measure accurately the vibration energy and the energy absorbed in the dampers, and use of a wind tunnel to simulate wind conditions.

Bureau of Standards tests started last fall should be completed in June of this year, after which further field tests will be made to verify the findings. Superior Cable Corporation, Hickory, North Carolina, is supplying the plastic dampers for the tests.

Fiberglass Poles and Crossarms are being tested by REA as a solution to woodpecker damage, pole fires, insulator flashovers and pole decay. In cooperation with REA, Nueces Electric Cooperative, Robstown, Texas, has installed and is keeping performance records on 20 fiberglass poles and crossarms in troublesome areas. Further tests are being planned on the lines of cooperatives in Florida and Virginia.

Also under way in cooperation with Forest Products Laboratory are soil block tests, decay tests and termite resistance tests.

The poles and crossarms being tested by the Texas co-op were developed by Gar Wood Industries, Inc. and distributed through Line Material Company, Milwaukee, Wisconsin.

Expulsion Arresters have been under test by REA since last June in cooperation with an arrester manufacturer. Through study of failure characteristics of arresters, REA hopes to formulate inspection procedures by which users can determine when an arrester has failed. A report will be issued this spring.

Field Tests of Gaps Versus Lightning Arresters are being conducted by Rural Line Engineers, Clayton,

Missouri, under an REA contract. Neighboring rural power systems are cooperating, with Clay Electric Co-op, Flora, Illinois, using gaps and Clinton County Electric Co-op, Breese, Illinois, using arresters. Each is keeping accurate records of equipment failure rates, number of permanent outages, number of recloser operations and other operating problems. The tests will continue until 1958. A report on the first year's observations is now being compiled.

Groundline Treatment of Poles is under study by Forest Products Laboratory for REA. The study, started last fall, is to determine the effectiveness of various types of commercial preservatives.

Test posts pressure treated with coal tar creosote will be placed in the ground at Madison, Wisconsin, Saucier, Mississippi and a third location to be selected. Groundline treatment will be given according to the preservative manufacturer's recommendations and analyses will be made at selected intervals on its effectiveness.

A preliminary report will be made next fall and another a year later.

Deficits Into Margins

ANYONE who might doubt the value of an intelligent and aggressive power use program need only refer to the record of the Marlboro Electric Cooperative, Bennettsville, South Carolina, to become a convert to the idea.

This small co-op, serving about 3600 families over 750 miles of distribution lines, just as recently as six years ago was operating at a deficit of \$25,000 annually. Today, with a full power use program under way, yearly net margins exceed that amount.

R. B. Awbrey, who came in as Marlboro's manager in August, 1951, credits the power use promotion campaign with this change in the co-op's financial picture.

Mr. Awbrey says that when he presented a power use promotion idea to start in December, 1951, he got the wholehearted approval of his board of directors. And they have gone along just as willingly on all the additions and refinements to the program since that time.

Marlboro got started on power use in a modest way. The co-op contacted dealers in the area and told them it would help boost appliance sales by making free installations on electric ranges. Dealers liked the idea and agreed to help by paying the first month's electric bill on new ranges. The plan worked so well that the directors kept making additions to the free installations and today all major appliances are installed free.

From that conservative start the

co-op has developed a program that makes use of practically every power use aid in the book. One of the most important phases of the campaign is the use of Section 5 loans to the fullest extent. Mr. Awbrey says: "Our consumer-members here in this section of South Carolina are all farmers, dependent on their crops of cotton, tobacco or corn for their income. They needed a flexible and easy way of financing their appliance purchases and Section 5 funds were the answer.

"We've lent more than \$220,000 for consumer financing so far. Not only are the co-op members happy about the arrangement, but the resulting spur to appliance buying has strengthened the position of dealers in the area."

Lest anyone get the idea that a power use program can overnight change a dismal financial picture into a bright one, Mr. Awbrey points out that the cooperative didn't set the world on fire with its promotion for the first couple of years. But by 1955 it was really running in high gear, having been extended and expanded during each of the preceding years. During 1955 more than 900 major appliances were installed on the lines.

One reason for the jump in results was the co-op's plan of setting up a quota system for the dealers and their salesmen, with elaborate prizes for both. For instance, first prize was a week's all-expense round trip by air to Los Angeles, including tickets to the Rose Bowl

game, for both the high dealer and his wife and the high salesman and his wife.

In 1956 the co-op continued the quota system, but changed the prizes to cash awards. Cash paid out for the year approached the \$1000 mark.

Even though the dealers are enthusiastic about the program, Mr. Awbrey hasn't sat back and expected them to keep up their own momentum. The co-op still holds quarterly meetings with the dealers and keeps them up to date on current promotions and future plans. The annual meeting for dealers usually finds about 200 in attendance, with business and civic leaders invited as guests. The co-op has found it pays to keep these folks advised of activity that promotes the economy of the whole area.

Coordinator of the program is the co-op's electrification advisor, Estelle Chamness. She keeps in touch with dealers, gives demonstrations before civic groups and youth clubs, works with county agents.

Marlboro helps build good will in the community by preparing lunches or dinners for meetings of civic groups up to 100 persons, providing complete catering service for the affairs. Naturally, the cooking is done in the co-op's all-electric kitchen.

They allocate about \$600 per month to radio, TV and newspaper advertising to help the campaign.

Marlboro joined the South Carolina Statewide dealer program when it was inaugurated in 1956. Manager Awbrey, never one to do things halfway, got the okay from his directors to go all-out on the statewide program.

Now let's see some figures that



Manager R. B. Awbrey (left) talks over promotion plans with the McIntyre brothers, Clio, S. Car., appliance dealers.

show what the power use program has meant to the co-op. Six years ago Marlboro's Debt Service Earned Ratio was 22 percent; today its DSER is 135%. In 1951 the average monthly kwh per consumer was about 84, with the average monthly bill slightly more than \$3; in 1956 the average kwh was running 184 and the average bill \$5.70, Mr. Awbrey says.

Last year Marlboro began pushing installation of 400-watt mercury vapor lamps controlled by photo-electric cells. The co-op makes installation on the member's property and provides complete service for \$5 per month. About 100 were installed during 1956, bringing in more than \$5000 in increased revenue. As Mr. Awbrey points out, they're even more valuable than the revenue figures indicate, because the lights provide a load on an idle system.

Marlboro is a good example of what sustained power use promotion can do for an electric cooperative. They began with a definite plan, got under way with a modest start, built the program consistently and kept their eye on the goal they had set. With the results they've got so far, you can bet they're not going to let up now.



Hard Hats Save Lives

FREQUENT reports come in to REA's safety engineers about rural electric cooperative employees who have been saved from death or serious injury by the use of safety hard hats.

Life-saving instances include cases in which falling objects have struck hard hats, employees have fallen from heights and hard hats have provided insulation in accidental contact with hot lines.

Following is a recent report from the Safety and Job Training Instructor in a western state:

"A 52-year old lineman employed by an REA borrower was trimming trees during the winter months. On the morning of the accident he had partially completed trimming a tree and in moving to a new position in the tree after disengaging his safety strap either slipped or failed to securely fasten the snap of the strap into the Dee ring of his body belt. He fell approximately 12 feet, landing on his back and shoulders and snapping his head backwards on the frozen ground.

"The lineman was wearing a safety hard hat at the time of the accident and it is very much the opinion of myself and others investigating the accident that if the

hard hat had not been worn the employee would without question have been killed. The hard hat was pretty well broken and the employee suffered a slight skull fracture, broken ribs and temporary loss of hearing. He is at the present time on the job, although full hearing has been impaired."

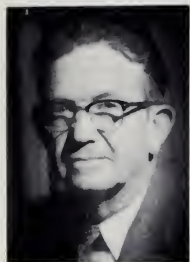
No need to mention that this man and all his fellow employees are sold on the idea of wearing hard hats.

The safety engineers urge management to provide hard hats for all plant employees. But more important, they say, management should make it mandatory for employees to wear the hats whether working on the ground or on the poles.

Many REA borrowers have already made the wearing of hard hats compulsory; others have provided the safety equipment and left the choice of wearing them to the men, but unfortunately a number of co-ops have not yet recognized the necessity of providing this equipment.

Don't wait for a fatal accident to convince you. Give your men hard hats and see that they wear them for their own protection.

When Diverse Interests Face Common Difficulties—



G. T. Alexander

Cooperation Pays

Following is a condensed version of a presentation by G. T. Alexander, manager, Coahoma Electric Power Association, Lyon, Mississippi, at the A.I.E.E. conference on farm electrification in Memphis, Tennessee, last fall. It is presented as an example of how rural electric cooperatives can work together with other power suppliers and representatives of various fields to solve problems that affect all.

WHEN farmers in the Mississippi Delta began electric irrigation in their fields of rice and row crops in 1950 the idea caught on fast, and power suppliers were delighted by the increased load on their lines.

However, as the number of installations doubled each year through 1954—there were about 1200 irrigation pumps on their lines by that time—the suppliers' enthusiasm was dampened somewhat by the difficulties that developed. The troubles came about through lack of standardization in the installation and operation of the irrigation systems, and particularly from the varied practices in starting and protecting the motors.

How the power suppliers of the area went about the job of correcting the situation is a good illustration of the value of teamwork and cooperation. There were five REA borrowers, an electric power company and a municipality involved in the problem. They organized a conference made up of their own representatives who were dealing with irrigation, specialists representing manufacturers of electric irrigation equipment, well drillers and industrial wiring

contractors. All these groups were interested in developing more efficient and economical use of electric irrigation by the Mississippi farmers.

Besides organizing the conference, the power suppliers retained a consulting engineer to consolidate the data and points presented by the conferees. He then translated them into concise, uniform and simple plans and specifications.

The conference had a double-barrelled purpose: (1) to develop uniform specifications for the installation of control equipment, and (2) to draw up uniform specifications for the construction and operation of three-phase lines used for irrigation.

Attaining the first goal meant gains in two important areas. First, contractors could bid more intelligently when they had clear specifications with which to work, thus aiding both the contractor and the farmer; secondly, the specifications enabled the contractor to use equipment that would coordinate with each component of controls and tie in properly with the operating characteristics of the distribution line.

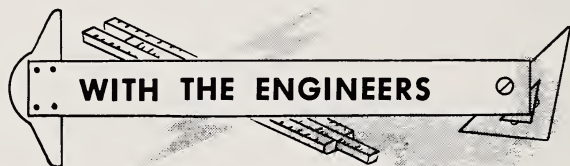
The second aim, standardization

of the construction and operation of three-phase lines, resulted in better, more efficient and more economical service to the farmer-irrigators by the power suppliers serving them in the area.

Mr. Alexander stated that the conference produced agreement on most points covering the operation of the electric pumps. For instance, the specifications state that the power suppliers will permit across-the-line starting of motors up to 60 hp without the use of reduced voltage starters. Automatic re-starting is also permitted, with the provision that starting equipment

have a time delay relay or back-spin timer.

Pointing out that such conference can't always settle all problems at one sitting, Mr. Alexander stated that one operating practice not covered in the specifications is causing the suppliers some worries. This is the practice, not yet extensive, of actuating the automatic re-start and starting relay through a float switch, which means that the pump could be stopping and starting at very frequent intervals. Now that the pattern of cooperation is set up, steps can be taken to prevent this method from becoming prevalent.



Brush control chemicals most generally used are 2, 4-D and 2, 4, 5-T esters and ammonium sulfamate (Ammate).

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Automatic clutches, fluid drives and torque converters may permit the use of smaller motors where large starting torques are required.

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More injuries to line crews occur on the ground than on the poles, although work on the poles is more difficult and more hazardous.

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Meter shipping cases are ideal for carrying meters to and from the service shop.

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An inexpensive current transformer connected at the neutral bushing of a substation transformer provides equal accuracy to an expensive one on the high voltage bushing.

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Fireproof vault doors are of little value if walls, ceilings and floors are not equally fire resistant.

POWER USE EXCHANGE



The Cooperative Light & Power Association of Lake County, Two Harbors, Minnesota, used an "open house" celebration as the means to display and demonstrate a complete line of electric appliances. Members were invited to attend the opening of the co-op's new and enlarged offices, with refreshments and door prizes as added attractions to swell the crowd.

Promoting the sale and use of home freezers, **Pataula EMC**, Cuthbert, Georgia, co-sponsored a freezer school, with the representative of an appliance dealer giving the demonstrations. The instructor showed how to prepare and freeze meats, vegetables, poultry, eggs, salads and desserts, and then held a question and answer session at the end of the meeting. *Rural Georgia* reports that a large and enthusiastic group attended.

The Association of Illinois Electric Cooperatives purchased a miniature electrified farm display for its annual meeting caravan and put it on exhibition at all co-op annual meetings during the past year.

Nearly 20,000 persons were estimated to have inspected the all-

electric exhibits at eight Iowa county fairs last year. Southwestern Federated Power Cooperative's distribution members cooperated with electric equipment dealers and power suppliers in sponsoring the displays.

"My irrigation equipment paid for itself last year even though I didn't have to use it." That's what a tobacco farmer reported to **Hart County EMC**, Hartwell, Georgia. He explained that he spaced his tobacco thicker and fertilized it better, knowing that if the rains failed he could still care for it by irrigation. The rains happened to be perfect, after several years of severe drought, and the result was an unusually big yield of high quality tobacco. And all because, having electric irrigation to depend on, he did things for his crop that he otherwise would not have done.

A re-inspection program started last year by the **Cass County Electric Co-op**, Kindred, North Dakota, and the state electrical board, resulted in more than 700 re-inspections among consumers. The report submitted after re-inspection enables the member to know exactly what he needs for the most efficient and economical operation of his electrical system.

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In March, Promote

Water Systems

Farm and home water systems head the list of farmers' prospective purchases this year. Be ready to cash in on national promotion campaigns in March. Check your Farm Electric Power Use Calendar for preparations you should make during February.

